



Investment Office

P.O. Box 2749

Sacramento, CA 95812-2749

Telecommunications Device for the Deaf - (916) 795-3240

(916) 795-3400

February 17, 2009

AGENDA ITEM 9d

TO: MEMBERS OF THE INVESTMENT COMMITTEE

- I. SUBJECT:** Active Internal Equity – Capital Allocation
- II. PROGRAM:** Global Equity
- III. RECOMMENDATION:** Staff's recommendation contains two parts. First, graduation of the emerging markets developmental portfolios out of the developmental program with a maximum allocation of 3% of Global Equity assets. Second, creation of consistency in the delegation of authority of capital allocation for the two developed markets (US and International) fundamental factor portfolios to a maximum of 10% of the assets of Global Equity.

IV. ANALYSIS:

Executive Summary

For nearly two years, Internal Equity has been managing two active emerging markets strategies in the Global Equity Developmental Portfolio. Further, for more than three years, Internal Equity has been managing both domestic and international portfolios that are actively weighted using the fundamental characteristics of the securities in the universe (fundamental factor portfolios). Overall, the management of both the developmental and fundamental factor portfolios has been quite successful procedurally, as well as in terms of performance.

As a result of the success in the internal management of these portfolios, staff requests Investment Committee delegation to effectuate two potential changes in delegated authority. First, staff would like to "graduate" the two active emerging markets strategies out of the developmental portfolio, and do so with a maximum capital allocation of 3% of the assets of Global Equity. Second, staff would like to

create consistency in terms of the maximum capital that can be deployed in the two developed markets fundamental factor strategies. Currently, the domestic fundamental portfolio is capped at 10% of the assets of Global Equity, while the developed markets international portfolio is locked at \$1 billion. In order to create consistency across these two strategies, staff requests delegated authority to capitalize each at a maximum of 10% of the assets of Global Equity (the cap currently in place for the domestic sleeve of the fundamental strategy).

Background

CalPERS internal equity management capability has grown materially over the last four years, both in terms of breadth of asset types managed (developed international, emerging markets), as well as number of portfolios managed (index portfolios, fundamental factor portfolios, model-driven active portfolios). Among the new portfolios managed are two active strategies in the Global Equity Developmental Fund, as well as two fundamental factor strategies managed based on the work of Rob Arnott and his colleagues at Research Affiliates, LLC (RALLC).

The first of these portfolios to be seeded was the domestic sleeve of the fundamental factor strategy. It was funded June 1, 2006, with \$1 billion in assets and had received Investment Committee approval to be capitalized with up to 10% of Global Equity assets. The second to be seeded was the developed international version of the fundamental factor strategy and it was funded February 1, 2007, with \$1 billion. However, this agenda item only granted approval for the \$1 billion in funding and did not include the potential for future increased funding of up to 10% of Global Equity assets, as was the case of the domestic version.

Subsequently, on June 1, 2007, staff seeded two emerging markets portfolios in the Global Equity Developmental Fund. These two portfolios were Internal Equity's first strategies managed in the emerging markets space and, in an abundance of caution, were funded with very limited capital of \$100 million each. In keeping with CalPERS Emerging Markets Principles of Responsible Investment, both portfolios utilize the KLD principles-based screening process in selecting securities for inclusion in the strategy. One of these portfolios is the emerging markets version of the fundamental factor strategy. The other portfolio is constructed using a country-tiered methodology wherein countries are weighted using multiple factors in addition to capitalization weights, with the securities being capitalization-weighted within the country.

Fundamental Factor Strategy

The construction of all three fundamental factor portfolios (domestic, developed international, and emerging markets) is based on security weights calculated from the fundamental accounting parameters of a firm's sales, book value, cash flow, and dividend payouts. Calculating security weights from these types of

measures is significantly different from the very common practice of basing security weights on market capitalization, which is the weighting methodology used in CalPERS equity benchmarks and the predominant methodology used in internally managed equity strategies.

Research done by RALLC, and subsequently corroborated through independent research by CalPERS staff, showed the potential for a portfolio constructed from the fundamental parameters to outperform a market capitalization based portfolio. The work from Research Affiliates examined 43 years of U.S. market history from 1961 to 2004 and demonstrated approximately 2% annual value added. While the strategy does not work in every market environment, a portfolio worth \$100 invested into the Standard & Poor's 500 index (market capitalization weighted) at year end 1961 would have been worth \$1,694 at the end of 2004, not including dividends. Adding the fundamental factor 2% per year value added to the S&P 500 return would have caused the same \$100 to grow to \$3,761 in 2004. The research done in the international developed and emerging markets space yielded even more compelling results (4% and 10% value added respectively).

The key attributes of the fundamental factor strategy are:

- Enhanced index category in risk and return
- Portfolio construction from benchmark data provided by RALLC and FTSE (staff seeks to improve trading rules but not engage in stock selection)
- Non-market capitalization basis provides a diversification benefit
- Combination of diversification and potential value added can improve the information ratio of Global Equity

Country-Tiered Emerging Markets Strategy

The objective of the country-tiered emerging markets model is to deliver above benchmark investment performance in a highly risk-controlled framework. The underlying premise of the model is a framework which allows one to capture the inherent tendency for markets to mean revert. The nature of emerging markets, namely high volatility of returns and low correlation between markets, provides the key ingredients to a structured strategy.

The model is comprised of five factors, which are used to determine the relative country weights of the strategy. The factors are: market size (capitalization), liquidity (average daily trading volume, transaction costs), stage of economic development (economic, social and political convergence to developed market norms), operational risk (trading, settlement and regulatory), and portfolio risk (volatility and correlation). Aggregate country scores are compiled based on each of these metrics and the countries are then placed into equal weighted tiers with other markets that achieve similar scores.

Once each country is assigned to a given tier (and thereby weight), the constituent securities within that country are held in capitalization weights. The reason for this methodology is that the purpose of the model is not to engage in stock selection but rather to capture the mean reverting tendencies among the developing markets.

The model blends two different approaches to rebalancing in order to effectively capture the mean reversion. The first is standard periodic rebalancing, conducted annually coincident with the annual factor review to ensure that the target and portfolio weights reflect the current model view. In addition, a trigger-based rebalancing mechanism ensures that any significant deviations from target weights are exploited on an interim basis between annual rebalances.

Infrastructure and Management

All four of these portfolios are managed using the same resources and infrastructure created upon internalization of CalPERS' first international equity strategy (the internally-managed international equity index fund). This includes an automated data aggregation engine, portfolio optimization software, electronic trade transmission, and straight-through processing of operations and settlement. The strategies are subject to exactly the same compliance testing, staff redundancy, and risk analysis as currently applied to all of the internal equity programs, and also fall under the newly implemented brokerage methodology.

Concerning policy language, the domestic and international developed markets fundamental factor strategies already have policies in place and will continue to be managed in accordance. For the two emerging markets strategies, given Investment Committee approval to be graduated out of developmental status, policy language will be developed and submitted to the Policy Subcommittee (PSC) for review at the April PSC meeting.

Information underlying the management of the fundamental factor strategies is acquired from RALLC and FTSE (CalPERS international index provider). For the country-tiered model, information is currently being acquired from GP Analytics, though staff is in the process of developing the internal capability to generate the model in-house. Payment for the data underlying all four portfolios is in the form of a subscription payment containing a small base fee, either in basis points relative to the assets managed in the strategy or merely a flat fee. There is an additional performance based component existing for the fundamental factor strategies that cannot exceed 10 basis points relative to the assets managed.

Strategy Performance

Performance to date of the fundamental factor portfolios has been mixed. The domestic version of the strategy, which has approval to be capitalized at up to 10% of Global Equity assets, has underperformed; while the developed markets international version has performed roughly in line with its capitalization-weighted

benchmark. The lack of “alpha” generation in these two strategies is largely due to cyclical underperformance of “value” securities (relative to “growth” securities) over the past few years. While the fundamental factor strategy is not strictly a “value” strategy, there is a value component to it resulting in cyclical periods of underperformance when value is performing poorly. These periods of underperformance are to be expected based upon independent research and back-testing results conducted not only by RALLC, but also by both CalPERS staff and Wilshire Associates.

Conversely, performance of the two emerging markets strategies has been excellent. Both portfolios have delivered consistently high levels of risk-controlled alpha and have done so through multiple trading events including the application of CalPERS Emerging Markets Principles of Responsible Investment (the KLD screen). Performance of all four strategies for the period ended December 31, 2008 is included in Table 1, below.

Table 1

<i>Strategy</i>	<i>1 Year Performance</i>	<i>ITD* Performance</i>	<i>Inception Date</i>
Domestic Fundamental	-39.98%	-12.93%	6/1/2006
Benchmark	-37.48%	-10.82%	
Excess Return	-2.50%	-2.11%	
Developed Markets Fundamental	-43.86%	-21.19%	2/1/2007
Benchmark	-43.56%	-21.04%	
Excess Return	-0.30%	-0.15%	
Emerging Markets Fundamental	-49.89%	-27.68%	6/1/2007
Benchmark	-51.31%	-29.25%	
Excess Return	+1.42%	+1.58%	
Country-Tiered Emerging Markets	-50.07%	-28.20%	6/1/2007
Benchmark	-51.31%	-29.25%	
Excess Return	+1.23%	+1.06%	

* ITD: Inception To Date (annualized)

Conclusion

Staff requests Investment Committee approval to make two changes to the delegated authority for capital allocation within the Global Equity program. First, as a result of successful management and performance of the two active emerging markets equity portfolios currently resident within the Global Equity

Developmental Fund, staff requests approval to “graduate” these two portfolios to mainstream status. In this “graduation”, staff requests approval to increase the funding of each of the portfolios to a maximum of 3% of the assets of Global Equity.

Second, in order to create consistency in the delegated authority of capital allocation, staff requests approval to bring the potential allocation for the developed markets international fundamental factor strategy into line with that of the domestic fundamental factor strategy. This would mean allowing each strategy to be capped at a maximum allocation of 10% of the assets of Global Equity.

It is worth noting that staff is not necessarily planning on immediately deploying additional capital into any of the four strategies. Staff is merely requesting delegated authority to allow flexibility in capital deployment in the event that additional funding to these strategies makes sense. Staff will ensure that capital is deployed in a prudent fashion and in line with existing risk parameters, both at the Global Equity and Plan level.

Further, if the three strategies for which staff is requesting additional delegated authority (the fourth being the domestic sleeve of the fundamental factor strategy, which already has delegated authority to be capitalized at up to 10% of Global Equity assets) were to all be capitalized up to the requested limits, the Performance at Risk (PAR) effect to the Plan would be 47.5 basis points (less than one half of one percent). Wilshire Associate’s Opinion Letter is enclosed as Attachment 1.

V. STRATEGIC PLAN:

This item will further the following goals of CalPERS Strategic Plan:

- Goal VIII. Manage the risk and volatility of assets and liabilities to ensure sufficient funds are available, first, to pay benefits and second, to minimize and stabilize contributions.
- Goal IX. Achieve long-term, sustainable, risk adjusted returns.

VI. RESULTS/COSTS:

With the exception of the data and performance fees associated with the fundamental factor strategies (asset based); there are no expected costs as a result of these changes. All four strategies are currently being managed by the Internal Equity team, and there are no incremental costs or resources to be needed as a result of any potential increases (or decreases) in capitalization.

The fees associated with these strategies are minimal and are capped at 10 basis points (0.1%) of assets, further supporting the argument for internal management. Additionally, the largest component of the fees are performance based, which only apply in the event that the strategy is outperforming and thereby earning money for CalPERS.

Daniel J. Bienvenue
Senior Portfolio Manager, Internal Equity

Eric B. Baggesen
Senior Investment Officer, Global Equity

Theodore Eliopoulos
Interim Chief Investment Officer